

Why Didn't the Piano Work?

Factor the expression. Find a factor in each of the two answer columns. One factor will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

Set 1

- a. $x^2 - 6x$ $10 - 6$
 $x(x - 6)$
 b. $2x^2 + 8x$ $24 - 8$
 $2x(x + 4)$
 c. $45x^2 - 20x$
 d. $9x^3 + 30x$
 e. $8x^5 - 15x^3$

Set 1 Answers

- ii. x^3 T. $(3x^2 + 10)$
 6. $2x^2$ O. $(x - 6)$
 24. $2x$ V. $(8x^2 + 15x)$
 2. $3x$ S. $(9x - 4)$
 16. x F. $(3x^2 - 4)$
 14. x^2 N. $(8x^2 - 15)$
 8. $5x$ A. $(x + 4)$

Set 2

- a. $8a^3 + 4a^2 + 12a$
 b. $7a^4 - 35a^3 - 14a^2$
 c. $6a^8 + 10a^6 - 3a^4$
 d. $36a^3 - 24a^4 + 60a^5$
 e. $30a^6 - 75a^5 - 15a$

Set 2 Answers

7. $2a^2$ Y. $(a^2 - 5a - 2)$
 6. a^4 P. $(2a^5 - 5a^4 - 3)$
 15. $15a$ T. $(3 - 2a + 5a^2)$
 13. $7a^2$ K. $(2a^2 + a + 3)$
 9. $3a^2$ H. $(2a^5 - 5a^4 - 1)$
 4. $4a$ O. $(6a^4 + 10a^2 - 3)$
 14. $12a^3$ N. $(3 - 2a - 5a^3)$

Set 3

- a. $m^3n + 9m^2n$
 b. $10m^3n^2 - 25m^2n^3$
 c. $49m^5n^3 + 28mn^4$
 d. $72m^7n + 24n$
 e. $8m^3n^4 - 22m^5n^6$

Set 3 Answers

10. $5m^2n^2$ L. $(4 - 11m^2n^2)$
 7. $24n$ P. $(7m^4 + 4n)$
 18. $7mn^4$ S. $(2m - 5mn^2)$
 1. m^2n W. $(3m^7 + 1)$
 12. $2m^3n^4$ I. $(m + 9)$
 22. $7mn^3$ L. $(4 - 11mn^3)$
 5. $8mn$ O. $(2m - 5n)$

Set 4

- a. $40x^2 - 100xy - 80y^2$
 b. $12x^5y^2 + 9x^4y^2 - 6x^3y^2$
 c. $15x^3y - 35x^2y^2 + 40xy^3$
 d. $144x^8y^2 + 27x^4y + 9x^2$
 e. $2\pi x^2 - \pi y^2$

Set 4 Answers

17. $5xy$ R. $(4x^2 + 3x - 6y)$
 21. $3x^2y$ N. $(16x^6y^2 + 3x^2y + 1)$
 5. $9x^2$ O. $(2x^2 - 5xy - 4y^2)$
 3. $5x^2$ Y. $(4x^2 + 3x - 2)$
 25. $3x^3y^2$ L. $(2x^2 - y^2)$
 23. π S. $(3x^2 - 7xy - 4y^2)$
 20. 20 W. $(3x^2 - 7xy + 8y^2)$

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